

# Vermont Environmental Report

## HYDROPOWER IS LURCHING FORWARD

Although only one site is under construction and several others are tied up in time-consuming reviews before the Federal Energy Regulatory Commission in Washington, D.C., -- the development of hydropower in Vermont is lurching forward.

According to officials at the Public Service Board in Montpelier, hydropower from all sources, in-state and out-of-state, supplies 41 percent of Vermont's electrical needs today. As much as 28.5 percent of this hydropower comes from the Power Authority of the State of New York (PASNY). Another 2.0 percent comes from Hydro Quebec. The rest, 10.7 percent is hydropower from Vermont resources.

Before construction or enlargement of a hydropower station may proceed, a utility, coop, municipal, or citizens group must pass two stages of review with the Federal Energy Regulatory Commission (FERC). The first stage is a preliminary permit that gives the applicant exclusive rights for up to three years to conduct field studies to determine the engineering and economic feasibility of a given site. The second stage is an application for a formal operating license to run a hydro station.

Over the past three years in particular, private utilities, municipals, coops and citizens groups have been examining the reactivation of old hydro sites, the conversion of existing flood control dams to hydro uses, and the construction of entirely new hydropower stations.

Until recently, there has been virtually no construction or enlargement of hydro sites in Vermont -- not since the 1950's. About two weeks ago the first actual construction of a hydro site in over 20 years began at the Great Falls hydro station on the Passumpsic River. When completed, as early as the spring of 1979, the new, enlarged facility will generate 1350 kw of power. The enlargement of the Great Falls site is being constructed by the Lyndonville Electric Light Department at a cost of \$1.1 million.

As you will see from the map on page 2 of this issue, at least 30 hydropower sites in Vermont are under some kind of study or review. Some sites are being considered informally. Some sites have been proposed for a preliminary permit to the FERC. Some sites have been granted preliminary permits and are undergoing engineering and economic feasibility studies.

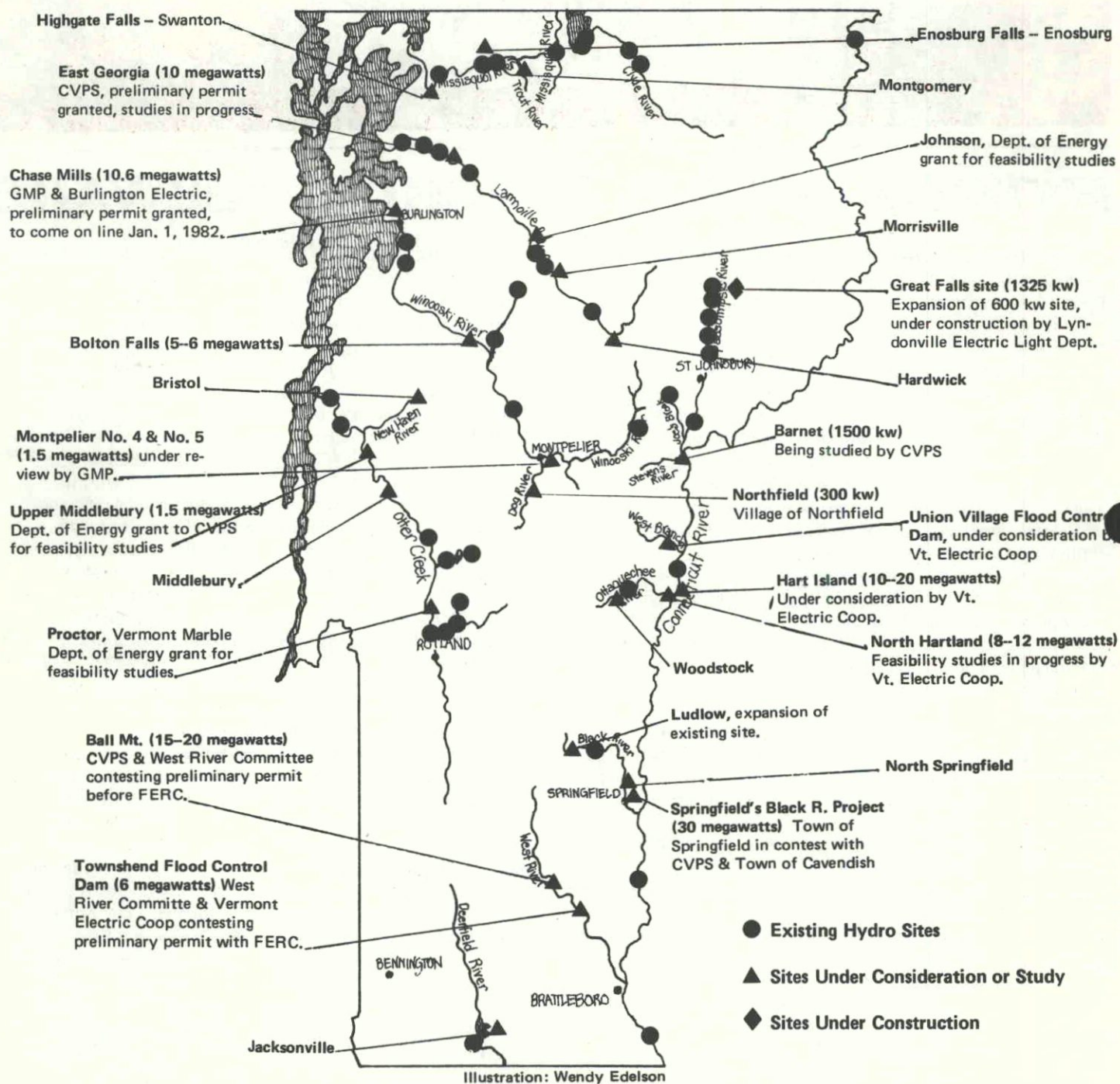
The Central Vermont Public Service Corporation (CVPS) and the Green Mountain Power Company (GMP) report that they have been conducting a review of hydro sites within their franchised areas over the past few years. CVPS has identified four sites where studies are either going forward or will go forward if preliminary permit applications before FERC are approved. These sites are: East Georgia on the Lamoille River; Ball Mountain on a tributary of the West River; Middlebury on Otter Creek; and Barnet on the Stevens River. GMC is reviewing sites on the Winooski River near Montpelier. GMP is also collaborating with the Burlington Electric Department to conduct engineering and economic feasibility studies to develop a hydro station at Chase Mills on the lower Winooski, near Burlington. The Vermont Electric Coop in Johnson has filed for a preliminary permit to examine a hydropower site on Hart Island on the Connecticut River south of White River Junction. The Coop is also studying the hydro potential of a site at North Hartland.

Citizens groups have also been active. In southern Vermont, 12 towns have banded together to form a West River Basin Energy Committee. The Committee has filed for a preliminary permit to study the feasibility of hydropower at Ball Mountain and at the Townshend flood control dam. These applications are in direct conflict with permit applications being filed with FERC by CVPS and the Vermont Electric Coop. In Brattleboro, a citizens committee appointed by the Selectmen is investigating the possibility of challenging the relicensing of the Vernon Dam, presently operated by the New England Power Company. In Middlesex, a committee appointed by the Town to study hydropower, has filed with FERC for permission to intervene in the licensing proceedings involving the Middlesex Gorge Dam, presently being operated by GMP without a formal license. And in Springfield, in perhaps the most widely celebrated case of citizen action for hydropower -- the Springfield Board of Selectmen with approval of the voters, is proposing a \$57 million, six-dam, hydroelectric project on the Black River. Here, too, there is a contest, between Springfield and CVPS, and between Springfield and the nearby Town of Cavendish. □

Map of Vermont Hydro Resources, please turn to page 2.



# VERMONT HYDRO RESOURCES



At the present time, complete information on all the prospective hydropower sites in Vermont is not available. The Vermont Public Service Board is just beginning a three-year study of all hydropower sites in the state. When the Public Service Board inventory is completed, the gaps that we show here, will be filled in. (Ed.)



# Michele Frome to Lead Grassroots Effort

VNRC's Michele Frome is launching a four-month project to encourage public participation in Vermont towns that are involved in sewage treatment planning under the Federal Construction Grants Program.

This project grew out of Frome's involvement in a three day conference held last April in Boston by the Environmental Protection Agency (EPA) and the Conservation Foundation of Washington, D.C., a national environmental group. Frome served as a member of the Regional Steering Committee for the training conference. When the time came for the Vermont delegation at the conference to decide how to carry out follow-up activities locally, they asked the Vermont Natural Resources Council through Michele Frome to provide assistance.

There are two basic ideas behind Frome's new efforts. First is the conviction that the best decisions on sewage treatment planning occur when citizens are involved. Second is the assumption that citizens can become involved meaningfully only if they understand the issues.

"We're talking about complicated issues," says Frome, "about wastewater and pollutants; about land use and soil types; about community growth and planning. These are not issues that anyone can jump into and master in two hours."

Frome has spent more than a year studying sewage treatment laws and regulations. She has also investigated small-scale sewage treatment alternatives. She has explained these laws and regulations, these programs and technologies in ways that the layperson can understand. And she says, "My own experience indicates that you don't have to be a professional engineer or planner to know what's going on, but you do have to spend the time and make an effort."

Frome is keen about working with Vermonters who are wrestling with sewage treatment problems in their own communities. Her efforts will focus on towns that are in "Facility Planning," or Step One of the Federal Construction Grants Program for sewage treatment.

She has already begun work with citizens in two small towns—East Fairfield and Danville. To a large extent, these two towns typify the kinds of problems that many small communities in Vermont are facing.

Frome says, "Both Danville and East Fairfield are small, concentrated village settlements, surrounded by largely undeveloped land. The lots may be too small and the soils too poor for conventional septic systems to work. On the other hand, there are too few buildings for a centralized sewage treatment system to be economical." Frome points out that neither of

these villages may want to take advantage of the new provisions in the Federal Grants Program for funding individual and alternative systems.

Frome talks about what she can offer Vermont communities. "I think I can be particularly helpful to communities that want to take advantage of the new provisions in the Federal Grants Program." These new provisions allow funding of privately owned systems and provide (85% federal) grants for alternative and innovative systems. "I think I can help towns identify new options that might work," Frome says.

Frome has a wide-ranging definition of "public participation." It involves two steps. The first is public information. Frome sees her mission as helping citizens to obtain information, and then helping them communicate that information to others.

The second step in public participation is what Frome calls "public involvement." She says, "I will help communities decide what kinds of activities to pursue and help them get started. Too often people don't get involved in sewage planning issues until the public hearing on the bond vote. But by then most of the choices have been made. And by then it's too late."

Frome wants to encourage other public involvement activities such as setting-up sewer advisory committees, holding workshops, taking field trips, and circulating questionnaires.

She will be working closely with the Environmental Engineering Division of the Agency of Environmental Conservation. She speaks highly of the "hardworking and dedicated state engineers who have been responsible for carrying out the Federal Construction Grants Program in Vermont." She refers to a letter from William C. Brierley, Executive Officer of the Environmental Engineering Division. Frome feels that Brierley's comments explain the need for public participation.

Brierley writes, "The important point to emphasize is that the engineer should be provided the maximum amount of specific guidance possible by local officials and interested citizens as early in the planning period as possible so that he does not determine what's best for the town, rather so the town can utilize his professional expertise in achieving their own ends."

Four months is a short time. Michele Frome is aware of the limitations. She says, "I don't expect the communities I'll be working with will solve their problems in four months. I hope they get a good start and carry on from there. I also hope that other communities in the Facility Planning stage will begin to take public participation seriously." □

**ANNOUNCEMENT:** The Vermont Department of Water Resources is offering a free summer outreach program to explain the problems of the aging of lakes, called eutrophication. An intern from the Audubon Society who has been assigned to the Department is available to show a film and conduct a discussion on eutrophication. The 28-minute, 16mm film is entitled, "Lake Eutrophication: An Abundance of Life." For further information on the summer outreach program, or to arrange a showing of the film and a discussion, please write, Jim Morse, Chief Aquatic Biologist, Department of Water Resources, Agency of Environmental Conservation, Montpelier, Vermont, or call, (802) 828-2761. □



## "Today this species is the elephant..."

Peter Beard's book, *The End of the Game*, is far more than a documentary in photographs and words about the recent decline of elephant populations in Kenya and the devastating reduction of the elephant's natural environment. It reaches back in time to an Africa of rough innocence, a scant 80 years ago, when Nairobi was a city of tin shacks and tents, -- a railhead against the wilderness. It reaches forward with a prescience almost too painful to contemplate, to the awesome spectacle of the ruined world that we are, knowingly, unremittingly, but irresistibly, making.

Marching across the pages of Peter Beard's book are the human images of this story, blacks, browns and whites alike.

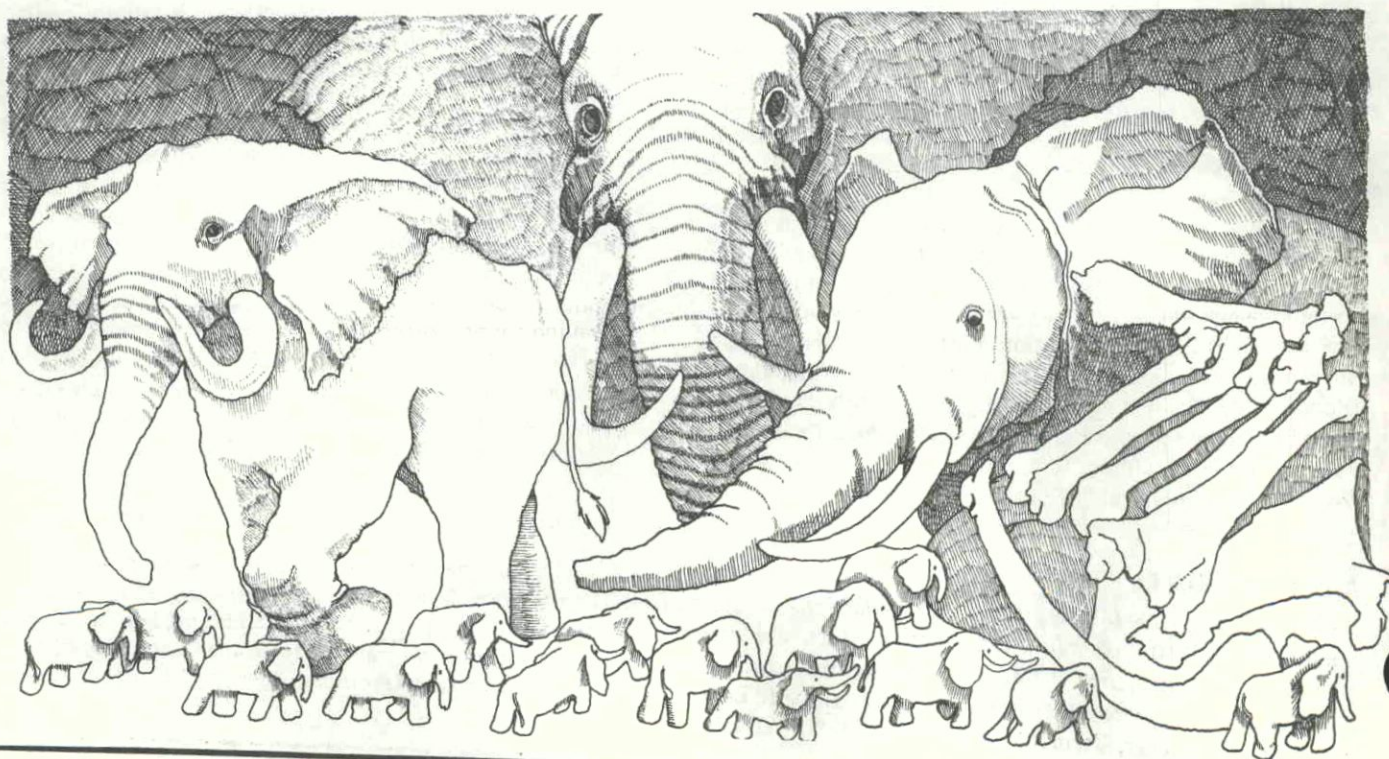
There is the African exploding with darkness and energy in tribal dances or tracking the lion in equal contest on the open grasslands. There is Paramount Chief Kinyanjui elegantly fingering a cigar in the presence of the visiting Prince of Wales. There is the writer Karen Blixen (Isak Dinesen) with her servants, Abdullah, Farah, Kamante. There are Africans being marched off to prison. The public execution grounds in Mombasa at the turn of the century. Africans digging sewage trenches in Nairobi. There are four tribesmen from the now-extinct Wa-Ndorobos staring into a European camera with astonished fear. There is the African hunter poised with spear and bow. There is Larsili, the African gun-bearer and stalker, of whom Peter Beard could write, "He knew the ways of the ani-

mals he stalked; he was able to note their most intimate signals as if their very life went on behind his eyes."

There is the Indian coolie, drafted by the British colonial government in thousands, for the backbreaking toil of building the Mombasa to Lake Victoria to Uganda Railway. No event had greater consequence on the penetration of East Africa, Peter Beard reminds us, than this "snake from the coast." (The Mombasa Railway was constructed between 1896 and 1901.) The work was halted by man-eating lions, strikes, natural obstacles. There was a terrible human cost: more than 2,000 Indian laborers died, other thousands were permanently disabled.

Then there is the white man, the motive force behind the changes that were coming to Africa. In early photographs, the conquerors of Africa are grim, determined, almost self-righteous in their appearance. They pushed into the African interior, scaled the peaks of Mt. Kenya, brought maps and gunpowder to Africa, introduced the motorcar, then the airplane, and as they separated the black man from the continuity of his past they gave him little to substitute for the destruction of his native culture.

There is the stern visage of Cecil Rhodes, staring out at us from these pages. Rhodes, the organizing genius of southern Africa, declaring, "Teach the native to want." There is Ewart Scott Grogan, who on a dare, sets out to walk the entire





length of the African continent from Cape Town to Cairo. Of Grogan's successful trek, begun in 1898, Peter Beard writes, "It was an act of pure courage undertaken in the spirit of expansion and exploration."

And yet, as Beard explains, the entry of the white man to Africa, was a tragic paradox. "The deeper he went into Africa, the faster the life flowed out of it, off the plains and out of the bush and into the cities, vanishing in acres of trophies and hides and carcasses. The coming of the white man, who imposed his steel tracks, his brains, his will, on the great continent was attended by glory and courage, ennobled by sacrifice, enriched by science and medicine and law. But it marked the beginning of the end in a land where nature herself had always been sovereign; at once sickness and cure, crime and punishment, beginning and end. Not the least of the signs of decay and dying," writes Beard, "was the remorseless end of the wild game."

The white hunter, Philip H. Percival, looking back on fifty years of leading safaris into the African bush, registers a sorrowful lament on the consequences of this end of the game on African tribes like the small Waliangulu. Writes Percival, "No people could ever have been more compromised in so short a time, a group that coexisted with elephants for hundreds of years, and that in its own way played an important role in the 'dynamic mosaic' of the Tsavo lowlands."

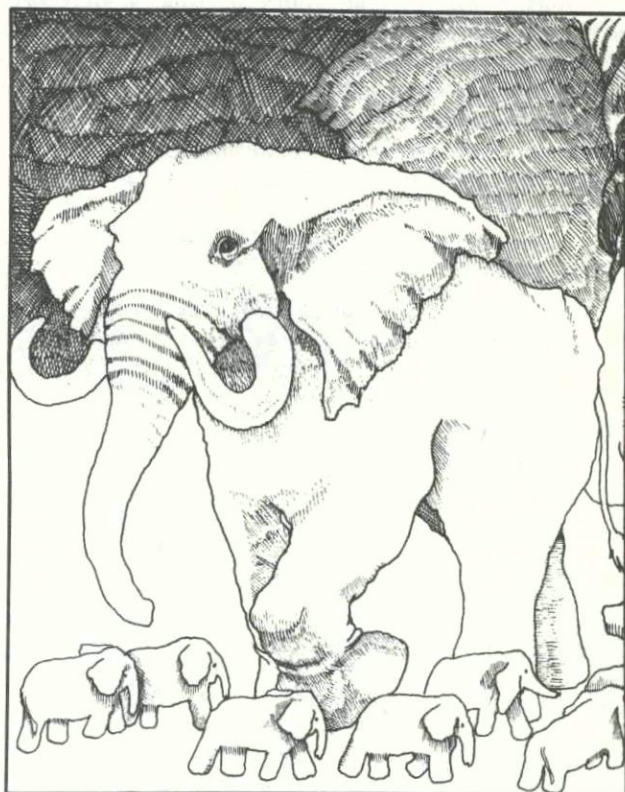
"They were helping to keep the age-old balances," Percival writes, "practicing a form of game control." Now the Kenya Government has discreetly relocated the Waliangulu outside their ancestral hunting grounds, where they have become, in Beard's words, "thoroughly accomplished alcoholics."

Nor has the tragedy been restricted to Africans alone. Peter Beard writes of the sad spectacle of the second generation white settler. Beard calls them the "saddest stratum of any immigrant group, frequenting clubs and bars, 'disparaging the way of life ushered in by [African independence] while extolling the European pioneer world only a few of them could ever have known.'"

"It is true," says Beard, "that what their fathers fought for more than a half century ago is about to be lost." But the sound of their voices is of "regret, distaste, and false nostalgia."

The chief glory of *The End of the Game* is the stunning photographs of African wildlife. Ten years ago Peter Beard brought out a first edition of *End of the Game*. But over the past decade Beard's perceptions of the tragedy coming to Africa have displaced whatever optimism he once had for the possible effectiveness of conservation efforts. Beard has this to say about the current book, "This new and final *End of the Game* deals with the decade that has passed since the book's appearance. In the light of what has happened almost everywhere, in the face of thinner and thinner illusions, it can no longer be categorized as a wildlife book. It is a book about human behavior, in a world that once had coherent meaning."

In the early pages of Beard's book, we see man and animal alike in a state of grace. We see the white man on safari stalking his prey in an African paradise where abundance has no limits. We see elephants bathing in a river, lumbering across the lush, unbroken savannah. The giraffes running gracefully across a plain, their tall profiles filling the horizon.



These images are transitory.

The snake with its arched back spits defiance, the rhino charges, the man-eating lion takes his kill, and the white man savages back.

Page after page, rushing pell-mell towards its inevitable denouement, shows the white man posed in triumph upon the carcass of the beast. But these are trophies taken in sport. As settlement and expanding human populations narrow the range of wildlife, the animals must be killed, controlled, if they are to survive. Beard registers with a shock that is unforgettable, the zebra fallen to the earth with its entrails dismembered, the water buffalo hoisted with chains, and finally in the last chapter of the book, the elephant confined within a range too small to support its numbers, mauling, ravaging, destroying its own habitat in search of food. Here is the boneyard of a once-abundant, balanced ecosystem, acres of shredded trees, and decaying animal corpses.

To say that *The End of the Game* is only a visual experience is to miss the brilliance of the book. The pictures are there with a life that compels our attention. There are words as well. But the net result is greater than the sum of the parts. Taken together, words, pictures, drawings, the handwriting of diaries scrawled across these pages - and what has been assembled is an anguished cry of protest against the hurts and wounds and scars upon the face of Africa.

In his Epilogue, Dr. Richard M. Law, past Director of the Tsavo Research Project in Kenya, raises the chilling question, not now about the fate of the elephant but of man.

Says Law, "In a world with finite resources, the elephant is second only to man in its capacity to inflict long-term,



irreversible damage on its environment, reducing the diversity and complexity of the habitat (as well as its own food base) by converting forest and woodland into grassland and desert. Not surprisingly the elephant is ravaged by many of the same symptoms as man: stress, violence, vandalism, heart disease...

Law continues. "The problem of the decline of elephant populations will not be solved once poaching and hunting are

controlled." These are superficial approaches. "Soon," says Law, "it will come to the full consciousness of all that the increasing concentration of any species in arbitrarily restricted areas will result in overpopulation, habitat destruction, and local and perhaps even wholesale extinction of that species."

The handwriting is on the wall. Law concludes starkly, "Today, this species is the elephant..." □

Behind Peter Beard's terrifyingly beautiful and powerful book on the old Africa that has all but disappeared before our eyes is the compelling figure of Karen Blixen.

Karen Blixen, in her own works, *Out of Africa*, *Shadows on the Grass*, tells the story of her life in Kenya. Years after she had left Africa, Karen Blixen wrote from the memory of her experience with a voice that is at once arresting, evocative, and prophetic.

Peter Beard's book is much more than a tribute to Karen Blixen. It is infused with her presence and fired with her sorrow for what has happened to what she calls "the Old Africa which was so dear to my heart. . ."

*I had a farm in Africa, at the foot of the Ngong Hills. The Equator runs across these highlands, a hundred miles to the North, and the farm lay at an altitude of over six thousand feet. In the day-time you felt that you had got high up, near to the sun, but the early mornings and evenings were limpid and restful, and the nights were cold.*

*Up in this high air you breathed easily, drawing in a vital assurance and lightness of heart. In the highlands you woke up in the morning and thought, Here I am, where I ought to be.*

*The introduction into my life of another race, essentially different from mine, in Africa became to me a mysterious expansion of my world. My own voice and song in life there had a second set to it and grew fuller and richer in the duet.*

*I was up at a great height, upon the roof of the world, a small figure in the tremendous retort of earth and air, yet one with it; I did not know that I was at the height and upon the roof of my own life.* □

## OFFICE PAPER: Waste Not, Want Not - - WHY NOT?

In an article in the June VER, Jeannette Stebbins points out the economic and environmental advantages for communities that recycle newsprint.

Now, the June issue of *Conservation News*, a publication of the National Wildlife Federation (NWF) in Washington, D.C., has discussed the merits of recycling waste paper from office operations.

Here is what NWF writer Carol Waite says about the recycling of paper from offices in an article entitled, "Progress in Paper Recycling."

*The National Wildlife Federation's headquarters in Washington, D.C. has opted for a full service paper recycling program. The full service company provides NWF with desk-top containers, education for employees, central collection bins, and pick-up and payment for each ton of waste paper. Each employee receives a desk tray for paper items. Each piece of high-quality paper simply goes there instead of the wastebasket. Large containers are placed in strategic locations around the office for people to empty*

*their desk trays. When these boxes are full, they are stored until approximately 40 boxes, about a ton, are collected. A phone call to the company brings the truck for pick up of the paper to be delivered for processing.*

*With only the first four tons of waste paper collected, NWF employees were amazed to learn that they had saved 68 trees. The four tons of waste paper were turned into 160 cases of copier paper. This amount of recycled paper results in an energy saving of 168,000 kilowatt hours, enough to air condition and heat two average Washington, D.C. homes for a year. Recycling one ton of waste paper uses 22,000 kilowatts; producing the same amount of paper from trees takes 67,000 kilowatts.*

Here in Vermont a few efforts at recycling waste office paper are going forward. IBM in Essex Junction is one example and the State of Vermont has a modest project for recycling computer cards and print-outs. □



# Annual Meeting Set For September 9th

Plans are being set in motion for the 1978 VNRC Annual Meeting on Saturday, September 9, at the Basin Harbor Club in Vergennes. The all-day event will begin with a morning program of field trips and excursions to several sites in the Lake Champlain area. The registration fee is \$2.00. Luncheon at the Basin Harbor Club is \$6.00. There will be an area set up for those who bring their own lunches.

VNRC members may choose to participate in any one of the five activities as part of the morning program. Activities include:

- (1) **BOAT TRIP ON LAKE CHAMPLAIN:** A two-hour boat trip on the UVM research vessel will feature a demonstration of freshwater research techniques and a discussion by biologists of wildlife, fisheries and water quality issues in Lake Champlain;
- (2) **CANOE TRIP ON DEAD CREEK:** Charles Johnson, a naturalist and a member of the VNRC Board of Directors, will conduct a five-mile canoe trip down lower Dead Creek to Otter Creek. This is an area rich with migrating shorebirds, resident waterfowl, and an oak-hickory forest;
- (3) **DEMONSTRATION OF FOREST MANAGEMENT & LOGGING TECHNIQUES:** A professional forester will demonstrate forest management and logging techniques at the Shelburne woodlot, a forest site that has been named "outstanding Vermont tree farm of the year."
- (4) **VISIT TO IPC PULP MILL IN TICONDEROGA:** Officials at the International Paper Corporation's pulp mill in Ticonderoga will discuss current pollution control efforts and problems in the paper-making process. The mill will be in operation during the visit;
- (5) **GUIDED TOUR OF BUTTON STATE PARK:** A State of Vermont naturalist will lead an exploration of Button State Park, including the nature center, hiking trails, and offshore islands.

After the morning program, VNRC members will assemble for lunch at the Basin Harbor Club in Vergennes. After lunch, there will be a panel discussion on the subject, "Vermont's Energy Outlook and its Implications on the State's Economic and Environmental Quality." Panelists will include: *Brendan J. Whittaker*, forester, former Director of the State Energy Office, and now Secretary of the Agency of Environmental Conservation; *Roger Miller*, President of Windsor Minerals (a talc mining company), and a member of the State Environmental Board; and a member of the Systems Dynamics Group from Dartmouth College. The Group is presently studying the possible applications of wood energy in New England. The business meeting will include an election of candidates to the VNRC Board of Directors, and a report of the Council's activities.

**ATTENTION:** Nominations of candidates for election to the VNRC Board of Directors must be received at the VNRC office in Montpelier no later than August 10. Nominations should include a brief biographical sketch and a brief statement from the candidate saying why that person wants to serve. The names of the nominees and their statements will appear in the August issue of the VER. An invitation to attend the Annual Meeting, together with an agenda, details about field trips, and reservation forms, will be mailed to all VNRC members about August 1.

## LETTER TO THE EDITOR

I want to commend you on the excellent June issue of the VER. As a long-time resident of New Haven, we were particularly interested in Mr. Reidel's essay. What he says urgently needs saying.

We were surprised to learn that Vermont is lacking in programs for the recycling of newspapers. It might interest you and VNRC members to know about the very successful program which has been operating now for some years in Guilford, Connecticut -- an environmentally conscious shore town of 16,000 -- not far east of New Haven. Behind the town hall is an enormous trailer truck with steps up the back where citizens bring their stacks of newspapers all year, at any

time. When the van is full it is taken away. Nearby is a large area of open bins for bottles deposited according to color, and handled on weekends by a group of volunteers, including some distinguished senior citizens. These earnings benefit the Guilford Land Trust, which has bought a great deal of valuable property for preservation. Also, at the town dump, a large sign reminds users, "Don't Send Your Tax Dollars to the Dump." Should you or your members want more information about the Guilford plan, the person to contact would be Mr. Richmond Curtis, Leete's Island, Guilford, CT., 06437.

Sincerely yours, Gladys Minear, West Newbury, Vermont



## Nuclear Waste Forum

The Department of Energy in Washington, D.C. is sponsoring one of three national public meetings on the subject of "Nuclear Waste Management" in Boston on Friday and Saturday, August 4 and 5. The Public Forum on Nuclear Waste Management in Boston will be held at the John W. McCormack Post Office and Court House, Post Office Square, Room 208.

In the words of a Department of Energy announcement, "These Public Forums are part of an Intergovernmental Review Group (IRG) study requested by President Carter on March 15, 1978 to develop recommendations for the management of nuclear waste. The Forum and the IRG process will lead to a draft and then final Environmental Impact Statement (EIS) on nuclear waste management."

The federal IRG effort will focus on six working groups: (1) Alternative Technology Strategies; (2) Federal Involvement (licensing/standards/criteria); (3) Defense Waste; (4) Spent Fuel Storage/Charges; (5) Transportation Issues; and (6) International Issues. Written materials will be supplied to interested persons to help identify the issues and focus the testimony.

Registration begins at 8:00 a.m. on August 4 and 5. You are urged to register early by writing or calling: Roberta Walsh, Department of Energy, Region I, 150 Causeway St., Boston, MA 02114, (617) 223 0504. □

## Trail Project Starts

The National Park Service and the Appalachian Trail Conference have announced the appointment of Preston Bristow to represent them in contacting landowners along the Vermont section of the Appalachian Trail this summer.

The Appalachian Trail Bill, passed by Congress and signed into law in 1978, gives the National Park Service and related government agencies the power to acquire land needed to protect the trail, by eminent domain if necessary. Amendments sought by the Green Mountain Club and VNRC, and pressed for in the U.S. Senate by Patrick Leahy and Robert Stafford, require that the power of eminent domain be used only as a last resort after all attempts have been made to work out other arrangements for permanent protection of the Trail right-of-way.

Preston Bristow's work this summer will involve three basic functions. First, he will contact landowners along the Trail and explain to them their options under the law. Second, he will find out their needs and concerns with land over which the Trail will cross. Third, he will submit recommendations to the National Park Service to be incorporated in the final proposal for acquiring each land parcel or rights.

For further information, write, Preston Bristow, 39 Central Street, Woodstock, Vermont, or call, (802) 457-3731. □

# VNRC

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## JULY 1978

## No.77

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ADDRESS CORRECTION REQUESTED

VERMONT NATURAL RESOURCES COUNCIL, 26 STATE STREET, MONTPELIER, VERMONT